

HISTORICAL PERSPECTIVE**Hugo Stoltzenberg and Chemical Weapons Proliferation***Benjamin C. Garrett*

Dr. Hugo Stoltzenberg had a hand--quite literally--in launching modern chemical warfare and spreading chemical weapons worldwide. As assistant to Fritz Haber, Germany's chief chemical warfare scientist, Stoltzenberg opened the valves on cylinders of chlorine gas when the order was given on April 22, 1915, to attack French positions near Ypres, Belgium. Earlier chemical weapon attacks had yielded disappointing results, but this attack proved a huge success, taking even the German military by surprise. And Stoltzenberg became one of chemical warfare's earliest casualties when a chlorine gas cylinder exploded, blinding him in the left eye.

When the war ended, the huge task of cleaning up the battlefield created opportunities for Stoltzenberg. After French government workers failed to successfully clear away Germany's chemical weapons stockpile at Lüneburg Heath, the German government hired Stoltzenberg to take over the effort. He spent the next five years--1920 to 1925--on this project, devising a straightforward scheme for getting rid of the stockpile.

Some items--both loaded chemical munitions and bulk-stored poison gases--were sold outright; buyers included US and Swedish firms. Other items were transported to Chemische Fabrik Stoltzenberg, his newly formed company in Hamburg, near Lüneburg Heath. Still-useable chemicals and weapons were stored here in anticipation of future chemical weapon contracts. Anything deemed too dangerous for storage above ground was dumped--sometimes at sea (the North Sea or the Baltic) and sometimes on land, by letting them sink into spongy peat bogs around his factory. Little, if any, of the German stockpile was disposed of in a safe, secure manner.

In 1921, while working on the Lüneburg Heath project, Stoltzenberg received his first foreign commission: appointment as chief engineer for Spain's newly constructed La Marañosa mustard gas plant. The Spanish mustard gas bombs promptly found use. In 1922, Abd el Krim led a rebellion against Spanish control of Morocco. From 1922-27, Spain used mustard gas to successfully subdue el Krim's rebellion.

In January 1923, Stoltzenberg received his second foreign commission: chief engineer for a similar mustard gas project, this time in the Soviet Union. At the time, the Soviet government wished to modernize its chemical weapons arsenal. Also, Germany sought a loophole in Article 171 of the Versailles Peace Treaty, which forbade it from importing, producing or using chemical weapons. By collaborating, the two countries found a common solution in the formation of the Russo-German joint venture, Bersol.

Bersol began as an effort to reconfigure a Czarist-era chlorine gas plant at Saratov into a modern mustard gas plant. Ultimately, the joint venture provided Germany with several benefits. Some of Saratov's mustard gas was allotted to Germany, allowing it to amass a covert stockpile. By working at Saratov,

Germany engineers and chemists maintained and refined their chemical weapon production skills. German industry found a market for specialized chemical weapon production machinery, such as artillery filling machines and chemical reactors. German scientists were encouraged to work at Soviet institutes, developing and testing novel chemical weapons. The German military learned the finer points of chemical warfare by training with and testing chemical weapons at Soviet facilities.

Although this Russo-German cooperation continued until 1933, Stoltzenberg's involvement had ended earlier--in 1927 or 1928, when the Soviets, unhappy with the slow pace of work on the Saratov facility, dismissed the Germans. Although the facility was not fully functional when the Germans involvement ended, a mustard gas stockpile did appear at the site--due to transfers from Stoltzenberg's Hamburg inventory.

Before being dismissed from his Soviet venture, Stoltzenberg had secured yet another foreign commission: chief engineer for Yugoslavia's Ravinica mustard gas factory. After that, he assumed a similar post in Brazil, producing mustard gas from 1937-42 under contract to the German government. Inventories of chemical weapons conducted in Germany after WWII uncovered mustard gas supplies from Czechoslovakia, Greece, Hungary, Italy, and Poland, suggesting that Stoltzenberg had dealings with one or more of these countries.

Viewing war as unavoidable, Stoltzenberg broadly promoted the concept of chemical warfare as "less barbaric than bayonets and firearms." In this, he embraced the motto of his mentor, Fritz Haber, who concluded his 1918 Nobel Prize acceptance speech by proclaiming poison gas "a higher form of killing."

Not content to confine his zest for chemical warfare to lectures, handbooks, and constructing facilities for others, Stoltzenberg built a laboratory in Hamburg to prepare his own poison gases. His research led to at least one invention: a formulation for "timed-release hydrogen cyanide," for which he received a British patent.

For those wanting first-hand experience with chemical weapons, Stoltzenberg supplied a chemical weapon sampler kit. Containing 60 chemical warfare gas cartridges--five each of twelve gases--and its own gun, the kit instructed users to fire the content of cartridges into an air-tight room at some suitable target--"preferably cats"--and observe the symptoms induced.

During World War II, Stoltzenberg joined the Nazi Party and continued to advocate using chemical weapons. His advice appears to have been ignored. After the war, he reopened his Hamburg facility and resumed his earlier business of disposing of surplus military material, including chemical weapons. As before, some were dumped at sea off Germany, and others into the bogs around his facility.

There are no published accounts linking Stoltzenberg to any post-World War II dealings involving chemical weapon factories outside Germany. He did continue to operate a laboratory synthesizing new poison gases--seemingly for testing protective gear. And he continued to advertise his services, now labelling his expertise "pest control."

Stoltzenberg sold his firm in 1969; he died five years later at the age of 91. The Hamburg facility was closed around the time of his death, but his chemical weapon legacy survives,

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Hugo Stoltzenberg*(continued from page 11)*

with some tragic consequences.

In 1990, geophysicists surveying Hamburg discovered large magnetic anomalies near the Stoltzenberg site. These anomalies were investigated and found to be two barges, deliberately sunk in the River Elbe during the late 1920s or 1930s. During the Lüneburg Heath project, the barges had been loaded with phosgene and mustard gas weapons. When the cargo started to leak, Stoltzenberg ordered the barges and contents sunk.

Presently, portions of the Baltic are off-limits to commercial fishing because of concerns over dumped chemical weapons. International bodies, such as the Baltic Marine Environment Protection Commission, and non-governmental organizations, such as Greenpeace and the Coalition for a Clean Baltic, are wrestling with how best to deal with these dumps. At least one site was created by Stoltzenberg: in 1924, a cargo of chemical weapons bound from Hamburg to Leningrad leaked, killing some of the crew. The survivors scuttled the ship in relatively shallow waters, its cargo becoming part of the fishermen's unwelcome harvest.

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